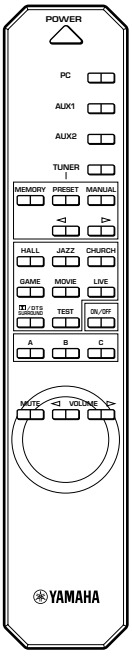
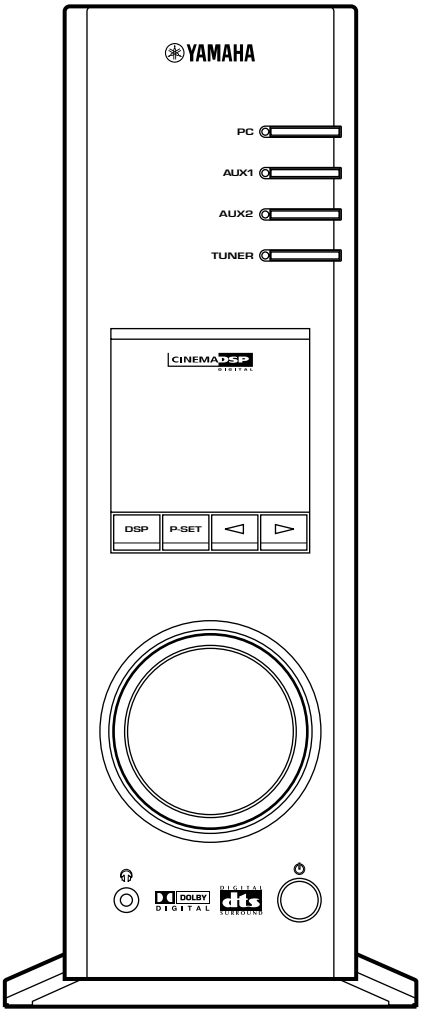
UCA

YAMAHA

PERSONAL RECEIVER

RP-U200

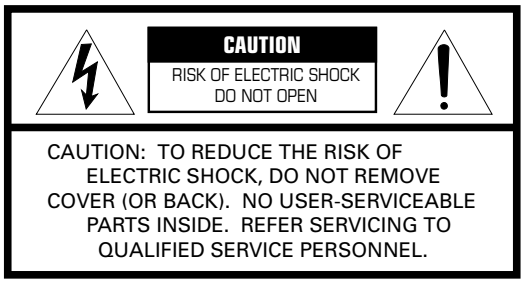




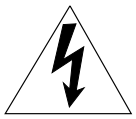
OPERATION MANUAL

MANUEL D'UTILISATION

IMPORTANT SAFETY INSTRUCTIONS


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

- Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT
Please record the serial number of this system in the space below.

Model:

Serial No.:

The serial number is located on the rear of the main unit.
Retain this Owner’s Manual in a safe place for future reference.

1 Read these instructions.

2 Keep these instructions.

3 Heed all warnings.

4 Follow all instructions.

5 Do not use this apparatus near water.

6 Clean only with dry cloth.

7 Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.

8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11 Only use attachments/accessories specified by the manufacturer.

12 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

13 Unplug this apparatus during lightning storms or when unused for long periods of time.

14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

COMPLIANCE INFORMATION STATEMENT

(DECLARATION OF CONFORMITY PROCEDURE)

Responsible Party:	Yamaha Electronics Corp.,
Address:	6660 Orangethorpe Ave.
	Buena Park, CA90620
Telephone:	714-522-9105
Type of Equipment:	Receiver
Model Name:	RP-U200

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following conditions:

1) this device may not cause harmful interference, and
2) this device must accept any interference received including interference that may cause undesired operation.

See the user manual instructions if interference to radio reception is suspected.

FCC INFORMATION (for US customers only)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!
This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class “B” digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the product “OFF” and “ON”, please try to eliminate the problem by using one of the following measures:
Relocate either this product or the device that is being affected by the interference.
Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.
In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.
If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Electronics Corp., 6660 Orangethorpe Ave. Buena Park, CA90620

The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

We Want You Listening For A Lifetime

YAMAHA and the Electronic Industries Association’s Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion – and, most importantly, without affecting your sensitive hearing.

Since hearing damage from loud sounds is often undetectable until it is too late, YAMAHA and the Electronic Industries Association’s Consumer Electronics Group recommend you to avoid prolonged exposure from excessive volume levels.

INTRODUCTION

About this manual

- This manual explains how to operate this unit. Refer to the separate **"SET UP MANUAL"** for how to connect this unit with other equipment, and to install the Application Software, etc. to your computer from the supplied CD-ROM.
- This manual mainly explains how to operate this unit using the front panel of this unit and the supplied remote control.
- When this unit and your computer are connected with the USB cable, and the supplied Application Software is installed on the computer, you can operate this unit from the computer using the Application Software. Refer to the online help of the Application Software for how to use the Application Software.
  The Application Software extends the use of this unit with additional functions which cannot be used with the front panel keys or the remote control. This manual introduces those functions by the following style.

  Example:

■ Adjusting USB MIX LEVEL

When an input other than the USB terminal is selected, you can listen to the mixed sound signals from the selected input and from the USB terminal. Also, the mixing ratio of the signals from the USB terminal can be adjusted.

* Refer to the online help of the Application Software for details.

This manual also offers brief explanations about the functions available with the Application Software on page 22–27. Refer to the online help of the Application Software for details of how to use the functions.

Features

- **This unit brings high-quality audio to your computer**
  This unit is a multimedia amplifier that brings you a new level of audio enjoyment. This unit has a USB port for connection with a personal computer. The USB interface allows remote control of this unit from your computer and control of sound data sent from your computer.

- **Equipped with a five-channel power amplifier**
  This unit has a five-channel power amplifier for reproducing surround sound fields of Dolby Digital*, DTS** and Yamaha CINEMA-DSP effectively. You can enjoy a full-scale home theater sound simply by adding the optional Yamaha speaker system NS-U40P and an optional subwoofer to this unit.

- **Equipped with Dolby Digital and DTS decoders**
  This unit reproduces multichannel sources encoded with Dolby Digital* or DTS** faithfully by using the built-in Dolby Digital and DTS decoders. You can now experience the sound scale and the realistic sensation of actual theaters in your home.

- **The newly-developed Yamaha Near-Field Cinema DSP (Digital Sound Field Processor)**
  Various DSP sound field programs allow you to select the program suitable for the selected input source. You can experience the sound fields of famous concert halls, movie theaters, etc. around the world in your home. The DSP sound effects are also available for headphone listening.

- **Compatible with various USB audio functions**
  This unit is compatible with the following audio signals received via a USB connection:
  multi-channel (two, four and six channels) audio, high quality digital audio of 24 bit/48 kHz and Dolby Digital-encoded signals. (Some operating systems and software programs do not support this feature.)

- **Various inputs/outputs and easy operation**
  This unit is equipped with various input and output terminals for both analog and digital signals, making it ideal as a control center for other audio equipment, such as a personal computer, CD player and MD recorder. The supplied remote control makes operation easy, and the supplied Application Software allows control of this unit from your computer including detailed settings.

- **Compatible with Virtual Dolby Digital and DTS Virtual 5.1**
  By employing the Virtual 3D technology, this unit reproduces multi-channel sources such as Dolby Digital and DTS providing realistic surround effects even with just two speakers.

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* DOLBY DIGITAL

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** DIGITAL dts SURROUND

Manufactured under license from Digital Theater Systems, Inc. US Pat. No. 5,451,942 and other world-wide patents issued and pending. "DTS", "DTS Digital Surround", are trademarks of Digital Theater Systems, Inc. Copyright 1996 Digital Theater Systems, Inc. All Rights Reserved.

CAUTION: Read this before operating this unit

1. To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
2. Install this unit in a cool, dry, clean place – away from windows, heat sources, sources of excessive vibration, dust, moisture and cold. Avoid sources of humming (transformers, motors). To prevent fire or electric shock, do not expose the unit to rain or water.
3. Never open the cabinet. If something drops into the set, contact your dealer.
4. Do not use force on switches, controls or connection wires. When moving the unit, first disconnect the power plug and the wires connected to other equipment. Never pull the wires themselves.
5. The openings on the unit cover assure proper ventilation of the unit. If these openings are obstructed, the temperature inside the unit will rise rapidly; therefore, avoid placing objects against these openings. To prevent fire or damage, install the unit in a well-ventilated area.
   <Europe and U.K. models only>
   To prevent fire or damage, be sure to allow a space of at least 10 cm behind, 10 cm on both sides and 10 cm above the top panel of the unit.
6. The voltage used must be the same as that specified on this unit. Using this unit with a higher voltage than specified is dangerous and may result in fire or other accidents. YAMAHA will not be held responsible for any damage resulting from use of this unit with a voltage other than that specified.
7. Always set the volume to minimum before starting audio playback. Increase the volume gradually to an appropriate level after playback has been started.
8. Do not attempt to clean the unit with chemical solvents as this might damage the finish. Use a clean, dry cloth.
9. Be sure to read the "TROUBLESHOOTING" section regarding common operating errors before concluding that the unit is faulty.
10. When not planning to use this unit for a long period (i.e., vacation, etc.), disconnect the AC power plug from the wall outlet.
11. To prevent lightning damage, disconnect the AC power plug when there is an electric storm.
12. Grounding or polarization – Precautions should be taken so that the grounding or polarization of appliances is not defeated.

For U.K. customers

If the socket outlets in the home are not suitable for the plug supplied with this appliance, it should be cut off and an appropriate 3 pin plug fitted. For details, refer to the instructions described below.
Note: The plug severed from the mains lead must be destroyed, as a plug with bared flexible cord is hazardous if engaged in a live socket outlet.

SPECIAL INSTRUCTIONS FOR U.K. MODEL

IMPORTANT:
THE WIRES IN MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

Blue: NEUTRAL

Brown: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED. Making sure that neither core is connected to the earth terminal of the three pin plug.

For Canadian Customers

To prevent electric shock, match wide blade of plug to wide slot and fully insert.

This Class B digital apparatus complies with Canadian ICES-003.

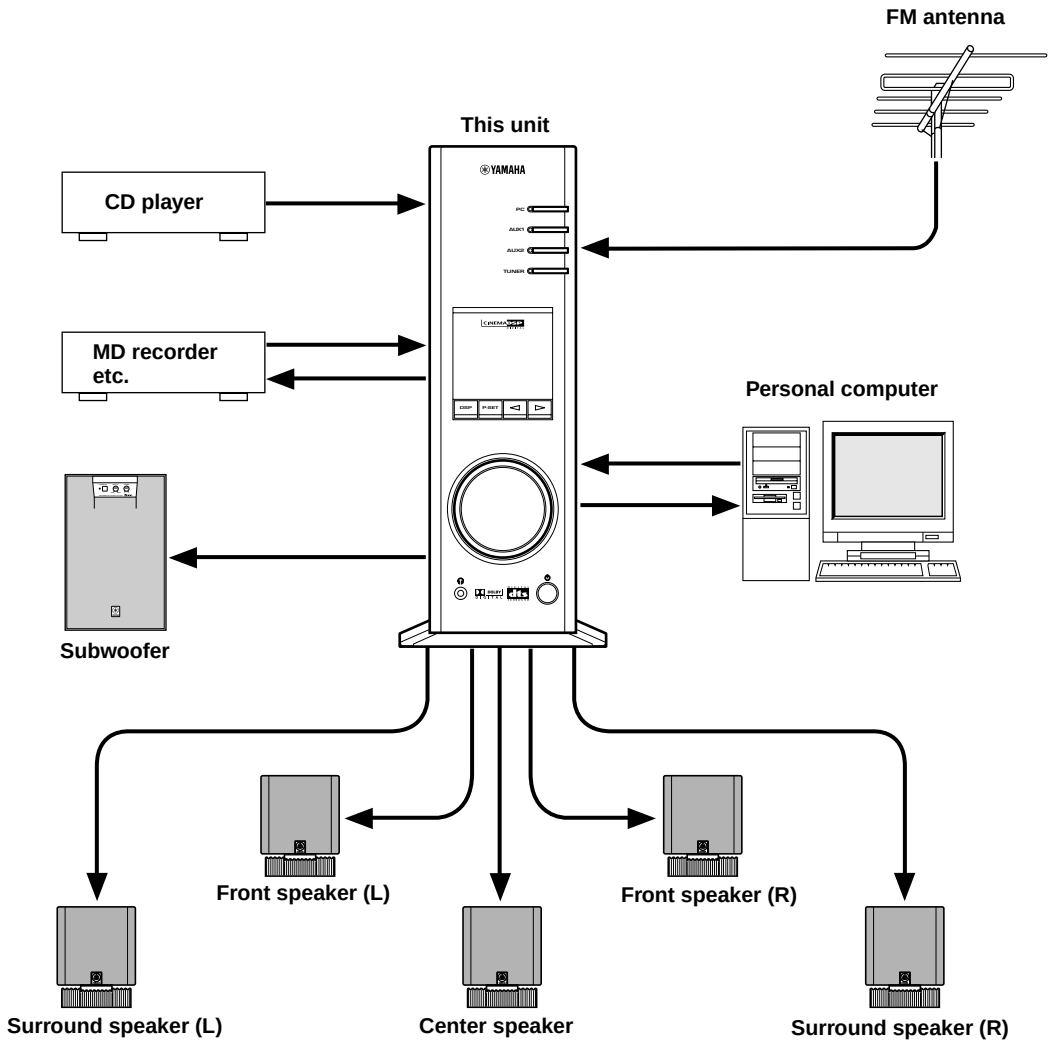
When this unit is turned off by pressing the power switch on the front panel or the POWER key on the remote control, this unit turns into the standby mode. In this mode, this unit is designed to consume a small amount of power. This unit's power supply is completely cut off from the AC line only when the AC power cord is disconnected.

OUTLINE OF THIS UNIT

Main features of this unit

Using Yamaha's unique DSP technology, this unit can bring excitement and realism to any audio source by simulating the acoustic environments of concert halls, movie theaters, and so on. With its stylish, vertical design, this unit allows you to use various audio sources, including the built-in FM tuner, your computer, CD player, MD or tape deck, as shown below.

Although this unit can be used as part of a typical hi-fi system, connecting it to your computer via the USB terminal, and running the supplied Application Software, allows you to remotely control this unit from your computer and make some adjustments and settings.



* Refer to the separate **"SET UP MANUAL"** for connections.

Dolby Digital and DTS

This unit features a built-in Dolby Digital decoder and a DTS decoder for reproducing surround sounds of sources encoded with Dolby Digital or DTS. With such state-of-the-art technologies, this unit can bring the same audio experience to your home as they have brought to feature films in quality theaters around the world.
Take some time now to read more about these features and enjoy the new experiences this system brings to your home theater.

■ Dolby Surround

Dolby Surround uses four discrete channels and five speakers to reproduce realistic and dynamic sound effects: two main channels (left and right), a center channel for dialog, and a surround channel for special sound effects. The surround channel reproduces sound within a narrow frequency range.

Most video tapes and laser discs include Dolby Surround encoding, as do many TV and cable broadcasts. The Dolby Pro Logic decoder built into this unit employs a digital signal processing system that stabilizes each channel for even more accurate sound positioning than is available with standard analog processors.

■ Dolby Digital

Dolby Digital is a digital surround sound system that provides completely independent multi-channel audio to you. Dolby Digital provides five full-range channels in what is sometimes referred to as a “3/2” configuration: three front channels (left, center and right), and two surround channels. A sixth bass-only effect channel is also provided for output of LFE (low frequency effect), or low bass effects that are independent of other channels. (This is called the “LFE channel”.) This channel is counted as 0.1, thus giving rise to the term 5.1 channels in total.

The wide dynamic range of sound reproduced by the five full-range channels and precise sound orientation by digital sound processing provides listeners with excitement and realism that have never been experienced before.

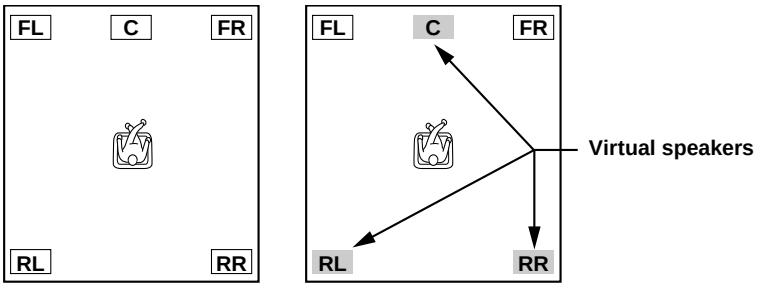
■ DTS (Digital Theater System) Digital Surround

DTS was developed to replace the analog soundtracks of movies with six discrete channels of digital soundtracks, and it is now installed in many theaters around the world. The DTS digital playback system changed the way we experienced movies in theaters with six discrete channels of superb digital audio. DTS technology, through intense research and development, has made it possible to deliver similar encode/decode discrete technology to home audio surround-sound entertainment. DTS Digital Surround is an encode/decode system which delivers six channels of master-quality, 20-bit audio; technically, it offers 5.1 channels, which means 5 full-range (left, center, right and two surround) channels, plus a subwoofer (LFE) channel (as “0.1”). It is compatible with the 5.1 speaker configurations that are currently available for home theater systems.

Virtual 3D

Surround sound typically requires several speakers situated in front of and behind the listening position, which requires a substantial amount of space that may not always be available.
In addition to ordinary surround sound reproduction using several speakers, this unit enables you to enjoy surround sound effects with only two speakers by using Yamaha's unique "Virtual 3D" (three-dimensional) technology.

Virtual 3D, which is used by this unit's sound field programs, simulates the surround effect provided by surround and center speakers, creating "virtual" surround speakers, as shown, so even with only two front speakers, you can still enjoy surround sound.

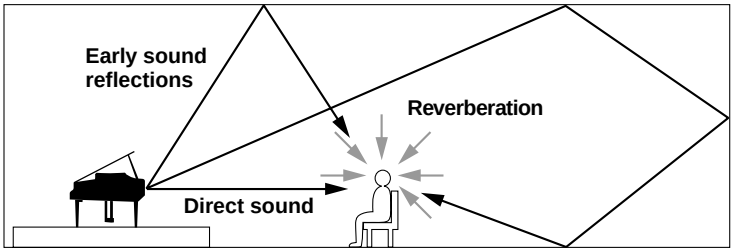


Typical surround system **Virtual 3D**

Digital Sound Field Processing (DSP)

When you listen to a performance in a concert hall, jazz club, or other live music venue, you not only hear the direct sound coming from the musical instruments and singers, but also the "early reflections" and natural reverberation. Early reflections are the initial sound waves that bounce off the floor, ceiling, and walls. Natural reverberation is made up of sound waves that gradually attenuate as they bounce repeatedly off multiple surfaces.

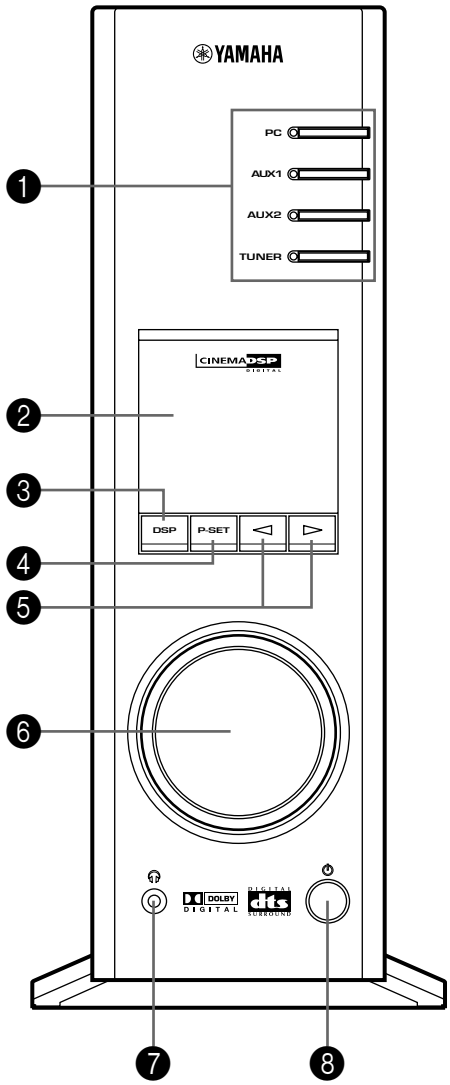
Since the way you hear early reflections and reverberation depends on the shape and size of the building as well as the material and construction of the walls and ceiling, each venue has its own unique "sound," called its "sound field." At Yamaha, we have measured all the elements that make up a typical sound field—direction and level of the reflections, band-width characteristics, and delay times—at famous concert halls and opera houses around the world. The information gained in this process has been converted into programs that can be reproduced using Yamaha's DSP technology. Using its on-board DSP, this unit can process any audio source and recreate the atmosphere of the original venue.



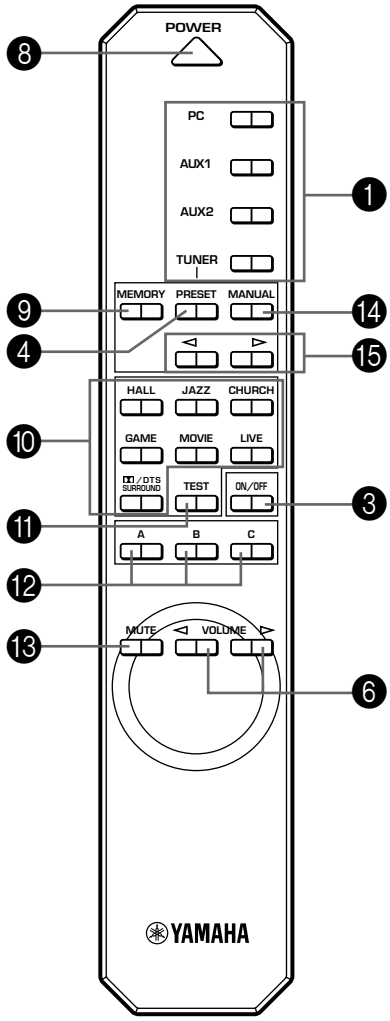
CONTROLS AND THEIR FUNCTIONS

Front panel & Remote control

Front panel



Remote control



❶ Input selectors & indicators

These four keys, explained below, are used to select the input source. The indicator of the selected source lights up.

- **PC key**

This key selects your computer as the input source. Pressing this key repeatedly selects the signals received at the USB, digital (DIGITAL PC COAX IN or DIGITAL PC OPT IN) or analog (ANALOG PC IN) input. The DIGITAL PC OPT IN has priority over the DIGITAL PC COAX IN, so if you connect to both inputs, the signal received at the DIGITAL PC OPT IN is used.

- **AUX1 key**

This key selects the equipment connected to the ANALOG AUX 1 IN or DIGITAL AUX 1 OPT IN connector as the input source. Pressing this key repeatedly selects the digital or analog input.

- **AUX2 key**

This key selects the equipment connected to the ANALOG AUX 2 IN connectors as the input source.

- **TUNER key**

This key selects the built-in FM tuner as the input source. If the tuner is already selected, this key toggles the reception mode between FM auto stereo and FM monaural.

❷ Display
The display shows various settings, selected input source, sound field program and various other information.

❸ DSP key [front panel]
ON/OFF key [remote control]
This key activates the sound field programs produced by the internal DSP.

❹ P-SET key (⏻) [front panel]
PRESET key [remote control]
This key changes the display status of the built-in FM tuner from the frequency display mode to the preset tuning mode.
If the tuner is already in the preset tuning mode, each press of this key changes the group of preset stations (A, B, C, D, E).
* This key works only when the tuner is selected as the input source.

❺ ⊲/⊳ (Down/Up) keys
These keys are used for selecting sound field programs, changing station frequencies, selecting preset station numbers, etc.

❻ Volume control [front panel]
⊲VOLUME⊳ (Down/Up) keys [remote control]
These control and keys adjust the speaker and headphone volume. The volume cannot be adjusted when this unit is in the standby mode.

❼ 🎧 Headphone jack
Stereo headphones can be connected to this mini-jack for private listening, with Virtual 3D effects specifically tailored for headphone listening.

❽ Power switch (⏻) [front panel]
POWER key [remote control]
Each click of this switch changes the status of this unit between standby mode and power on.
* In the standby mode, this unit can be turned on remotely from your computer, using the supplied Application Software. Note that this unit uses a small amount of power in the standby mode.

❾ MEMORY key
This key is used to store a desired station in the memory.
* This key works only when the tuner is selected as the input source.

❿ Sound field program selector keys
Each of these keys selects the corresponding sound field program.

⓫ TEST key
This key is used to output a test tone. The test tone is used when adjusting the volume balance among all speakers in the system including the virtual surround speakers. (Refer to page 19 for details.)

⓬ Custom keys (A, B, C)
These keys are available when this unit and your computer are connected with the USB cable, and the supplied Application Software is installed on the computer.
Each of these keys can be programmed with a set of commands (input selector, sound field program, volume setting, etc.) by using the Application Software. After storing, simply pressing each key will execute the stored command.
* Refer to the online help of the Application Software for details.

⓭ MUTE key
This key is used to cut off sound output temporarily. Turning the volume control on the front panel or pressing the **VOLUME** keys on the remote control restores sound output. Pressing this key again also restores sound output.
* Sound output will also be restored by changing the status of this unit between standby and power-on, changing the input source or the sound field program, and so on.

⓮ MANUAL key
This key changes the display status of the built-in FM tuner from the preset tuning mode to the frequency display mode.
* This key works only when the tuner is selected as the input source.

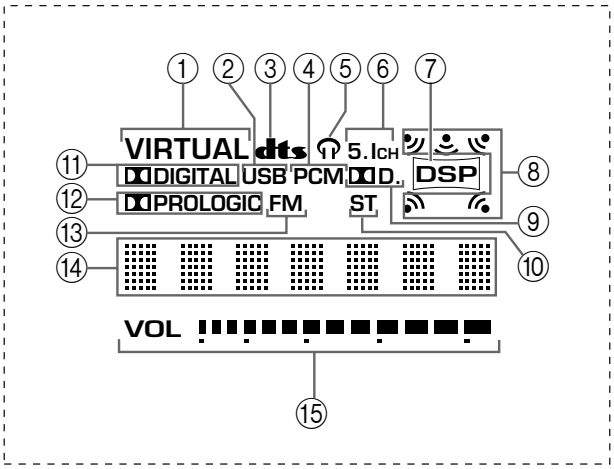
⓯ Tuning ⊲/⊳ (Down/Up) keys
These keys work in the following ways according to the status of the tuner.

In the frequency display mode:
Each press of ⊳ selects a higher frequency and ⊲ selects a lower frequency.

In the preset tuning mode:
Each press of ⊳ selects a higher preset station number and ⊲ selects a lower preset station number.

About the display

This section explains what the various display indicators mean.



① **VIRTUAL**
This indicator appears when this unit is using Virtual 3D.

② **USB**
This indicator appears when audio signals are sent or received via the USB terminal.
* If you use a Macintosh computer, this indicator is always illuminated when this unit is connected to the computer via the USB terminals.

③ **dts (DTS)**
This indicator appears when an input signal is decoded with DTS.

④ **PCM**
This indicator appears when a PCM digital audio signal is selected as the input source.

⑤
This indicator appears when headphones are connected to the headphone jack of this unit.

⑥ **5.1CH**
This indicator appears when a 5.1 channel digital audio signal is selected as the input source.

⑦ **DSP**
This indicator appears when the DSP is processing the input signal.

⑧ **Sound output indicator**
This indicator shows the currently used speakers. A red dot shows that the corresponding speaker is currently used, or the speaker is set for use in the Application Software. The mark shows that sound is outputted.
* When using the test tone, a red dot shows the channel currently outputting the test tone.
* When using headphones, only the two dots for the left and right front speakers appear regardless of the setting in “Speaker Settings”.

⑨ **D.**
This indicator appears when an audio signal encoded with Dolby Digital is selected as the input source.

⑩ **ST**
This indicator appears when a stereo broadcast is received in stereo mode.

⑪ **(DOLBY) DIGITAL**
This indicator appears when an input signal is decoded with Dolby Digital.

⑫ **(DOLBY) PROLOGIC**
This indicator appears when an input signal is decoded with Dolby ProLogic.

⑬ **FM**
This indicator appears when the built-in FM tuner is selected as the input source.

⑭ **Multi-information display**
Various messages and information appear here.

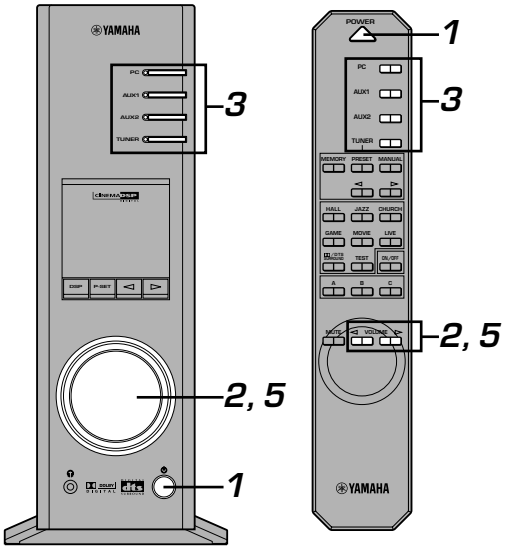
⑮ **VOL (volume)**
This indicator graphically displays the volume level setting.

Note

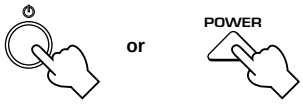
The indicators dts, “**5.1CH**” and will not appear when sound signals are decoded on the computer (by using DVD-playback software, etc.).

Playing a source

This section explains how to turn on this unit and select input sources. If any external audio equipment is connected to this unit, turn it on first.



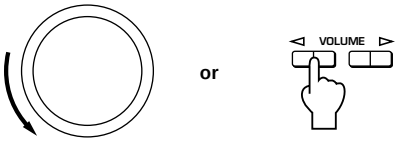
1 Turn on this unit.



Front panel | Remote control

The message "Hello" appears for a few seconds, and this unit returns to the state in which it was last used (e.g., the input source that was selected when this unit was turned off is selected).

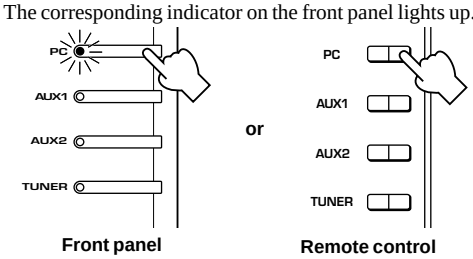
2 Decrease the volume to minimum (MIN).



Front panel | Remote control

3 Select an input source by using the input selector keys.

The corresponding indicator on the front panel lights up.



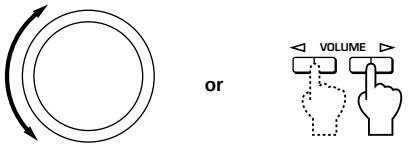
Front panel | Remote control

Refer to the explanation on the right side for details about using the input selector keys.

4 Start the selected input source.

Refer to "**Listening to an FM broadcast**" on pages 14–18 about how to tune into a desired station.

5 Adjust the volume to the desired level.



Front panel | Remote control

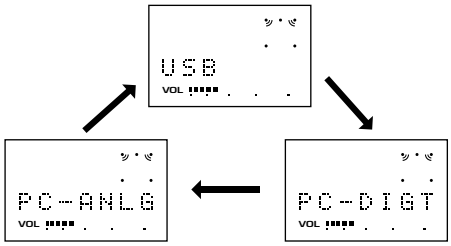
6 As you prefer, use a sound field program.

Refer to page 11 for details about the sound field programs.

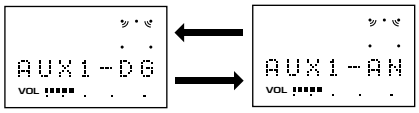
About the input selector keys

Each of the input selector keys selects the following input signals.

PC: Press the **PC** key repeatedly to select the PC inputs: "USB", "PC_DIGT" and "PC_ANLG". PC_DIGT selects the DIGITAL PC COAX IN or DIGITAL PC OPT IN, and PC_ANLG selects the ANALOG PC IN.
Note: The DIGITAL PC OPT IN has priority over the DIGITAL PC COAX IN, so if you connect to both inputs, the signal received at the DIGITAL PC OPT IN is used.



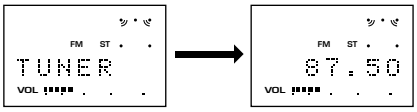
AUX1: Press the **AUX1** key repeatedly to select the inputs: "AUX1_DG" and "AUX1_AN". AUX1_DG selects the equipment connected to the DIGITAL AUX 1 OPT IN, and AUX1_AN selects the equipment connected to the ANALOG AUX 1 IN connector as the input source.



AUX2: Press the **AUX2** key to select the equipment connected to the ANALOG AUX 2 IN connectors as the input source.

TUNER: Press the **TUNER** key to select the built-in FM tuner as the input source.

* When the **TUNER** key is pressed, "TUNER" appears first on the display, and then changes to the display of a frequency or a preset station.



Note

When the **PC**, **AUX1** or **AUX2** input selector key is pressed, the display shows the name of the selected input source for a short while, and then shows the currently selected sound field program.
When no sound field program is selected, "THROUGH" is shown on the display.

The names of input sources shown on the display can be changed with the Application Software. Refer to the Online Help of the Application Software for details.

■ To cut off sound output temporarily

Press the **MUTE** key. To restore sound output, turn the volume control on the front panel or press the **VOLUME** keys on the remote control. Pressing the **MUTE** key again also restores sound output.

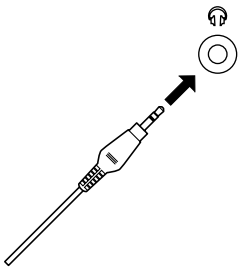
Remote control

Note

Sound output will also be restored by changing the status of this unit between standby and power-on modes, changing the input source or the sound field program, using the test tone, or using the **A**, **B**, **C** keys on the remote control.

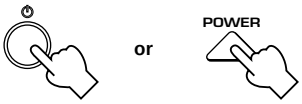
■ When you listen with headphones

Connect the headphones to the **headphone jack**. No sound will be outputted from the speakers.



■ When you have finished using this unit

Set this unit to the standby mode by pressing the **power** switch on the front panel or the **POWER** key on the remote control.



Front panel **Remote control**

Note

When not planning to use this unit for a long period (i.e., vacation, etc.), disconnect the AC power plug from the wall outlet.

■ Setting USB MIX

When an input other than the USB terminal is selected, you can listen to the mixed signals from the selected input and from the USB terminal. Also, the mixing ratio of the signals from the USB terminal can be adjusted.

* Refer to the online help of the Application Software for details.

■ Setting graphic equalizer

You can adjust the frequency characteristics as you prefer by using the 7-band graphic equalizer.

* Refer to the online help of the Application Software for details.

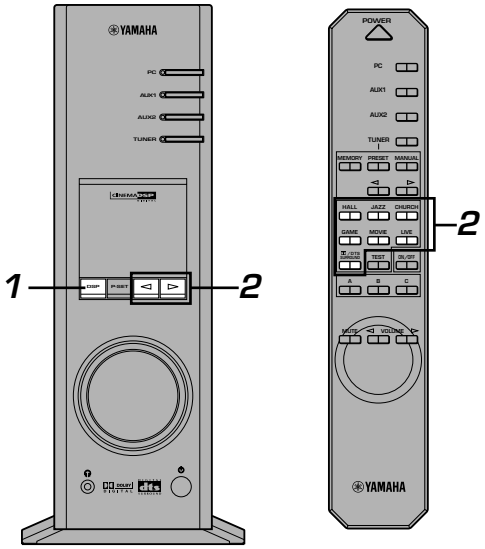
Notes

- Some setting changes may be needed on the computer to reproduce signals sent from the computer to this unit via the USB connection. Refer to the separate **"SET UP MANUAL"** for details.
- Some setting changes may be needed on the computer to reproduce signals sent from the computer to this unit via a sound card, etc.

Automatic power saving function
If there is no operation on this unit's front panel, the remote control or the Application Software for about 24 hours with the power of this unit on, this unit will automatically be set to the standby mode.

Using sound field programs

This unit's built-in DSP (Digital Sound field Processor) can simulate various acoustic environments, including a concert hall and movie theater, with its seven sound field programs. For the best results, choose a program appropriate for the selected audio source.



First follow steps 1–5 of "Playing a source" on page 9.

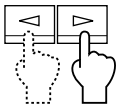
1 Turn on the DSP.

Front panel

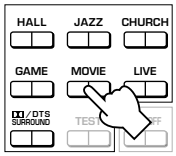
(When using the remote control, step 1 can be skipped.)

The name of the selected sound field program appears on the display.

2 Select the desired sound field program.



or



Front panel

Remote control

Front panel: Pressing ◁ or ▷ repeatedly changes the program.

Remote control: Press the key of the desired program.

The following programs are available.

	Program	Feature	Note
Hi-Fi DSP (for music sources)	**HALL (CONCERT HALL EUROPE)**	This program simulates the sound field of a medium-sized hall, with a beautiful and rich reverberation.	These programs create a sound field that feels real, just as if you were actually there.
	JAZZ (JAZZ CLUB VILLAGE GATE)	This program simulates the sound field of a famous New York jazz club.	
	CHURCH (CHURCH ROYAUMONT)	This program simulates the sound field of a Gothic church, with the unique effect of sound reverberating back and forth in a domed ceiling.	
CINEMA DSP (for video sources)	**GAME (GAME AMUSEMENT)**	This program adds depth and surround effects to computer games, enhancing the gaming experience.	These programs can be used together with Dolby Pro Logic, Dolby Digital or DTS for enjoying surround sounds of motion-picture audio. ***: HP3D** **This program enables you to enjoy a virtual 3D effect with headphones. When you connect headphones to this unit, the DTS SUR. program automatically changes to HP3D .**
	MOVIE (MOVIE THEATER)	The realism provided by this program gives the impression that you're actually in the scene.	
	LIVE (LIVE CONCERT)	This program produces an enthusiastic atmosphere and lets you feel that you are in the midst of the action, as if attending an actual jazz or rock concert.	
	NORMAL (DTS SUR.) [HP3D* (Headphone 3D)]	This program reproduces the surround sound of a source encoded with Dolby Pro Logic, Dolby Digital or DTS faithfully. Sensing the input signal, the built-in Dolby Digital decoder or the DTS decoder automatically works. When this unit is set to the "Virtual 3D" mode (the surround speakers are not used) in the Application Software, 5.1-channel surround sound effects are reproduced with only two front speakers by using Yamaha's "Virtual 3D" technology.	

Notes

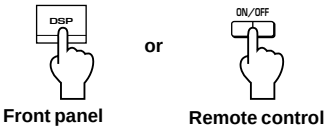
- Just after selecting a program, the program name scrolls from right to left on the display, and then its short-version name lights up.
- No sound field program can be used when receiving signals with a 96 kHz sampling frequency.

■ Adjusting DSP sound field parameters

The surround effect of each program or the Virtual 3D effect can be adjusted to the desired taste by using the Application Software. Refer to the online help of the Application Software for details.

■ To turn off the sound field effect

Press the **DSP** key on the front panel or the **ON/OFF** key on the remote control. "THROUGH" appears on the display.



Note

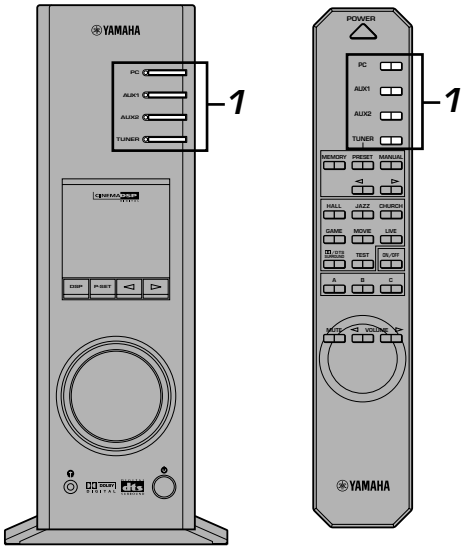
When the sound field effect is off, sound is reproduced in normal stereo.

Recording

Input sources (e.g., a computer or CD player) selected on this unit can be recorded by an MD recorder, tape deck, etc. connected to this unit. Also, input signals can be fed to your computer via the USB connection.

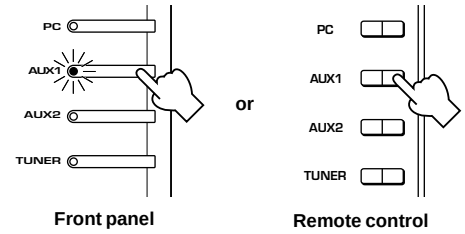
* When a source is recorded using a sound field program, sound field effects are recorded with the source.

■ Recording on an external recording unit



First turn on the external unit to be used, and then this unit.

1 Select the source to be recorded by using the input selector keys.



2 Start recording on a recording unit (an MD recorder, tape deck, etc.).

3 Start playing the input source .

■ Playing the recorded result via this unit

Select the input signals sent from the recording unit with the input selector keys.

Notes

- If input signals received at any digital input terminal other than the USB terminal is outputted at the digital output terminal, the sampling frequency for the output signals is the same as that for input signals.
- The sampling frequency for digital signals converted from analog signals on this unit is 44.1 kHz or 48 kHz.
- When digital input signals are outputted at the digital output terminal, track information (CD-text data, automatic track renewal when recording is made on an MD, etc.) is invalid if any sound field program (including the graphic equalizer effect) is used.
- Both REC OUT and OPT OUT terminals on the rear of this unit output the same constituents of signals as outputted from the left and right front speakers.

■ Recording on a computer (via the USB connection)

When recording or processing signals inputted to your computer via the USB connection, the following setting is needed on the computer.

○ Selecting Recording Device

When using Windows

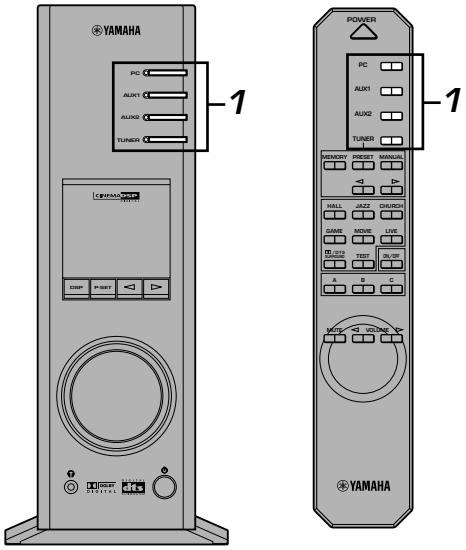
1. Click the Windows “Start” button and select “Settings”, and then “Control Panel”.
2. Double-click the “Multimedia” icon (or the “Sounds and Multimedia” icon).
3. Click the “Audio” tab and select “USB Audio Device” at “Preferred device” of “Recording” (or “Sound Recording”).

When using a Macintosh

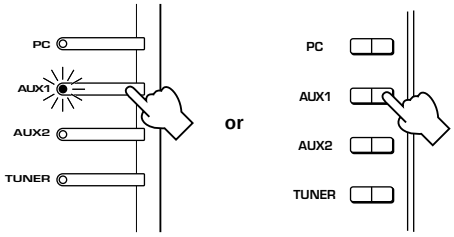
Select “USB Audio” as the input device at “Sound” on the Control Panel.

○ Setting of Recording Software

Select a sampling frequency from 44.1 kHz and 48 kHz. Select a resolution from 16 bits and 24 bits. The sampling frequency of 44.1 kHz with the resolution of 16 bits produces a sound quality comparable to the compact disc (CD).



1 **Select the source to be recorded by using the input selector keys.**



Front panel **Remote control**

2 **Start recording with the recording software on the computer.**

3 **Start playing the input source.**

■ Playing the recorded result via this unit

Press the **PC** input selector key repeatedly to select USB as the input source, and play the recorded result on the computer.

Notes

- If the number of USB channels is set to six, recording cannot be made via the USB connection. Reset the number of USB channels to two or four.
- To record digital input signals with a 48 kHz sampling frequency, the frequency of the input signals must be 48 kHz.
- To record sound signals received at an analog or digital input of the sound card etc., and not via the USB connection, select the corresponding device, such as “Sound Card”, from “Preferred device” of “Recording” (or “Sound Recording”) on the computer.
- The sampling frequency and resolution of signals recordable on the computer differ from operating systems. You can refer to the following Yamaha website for details about the related information.

http://www.yamaha.co.jp/audio/

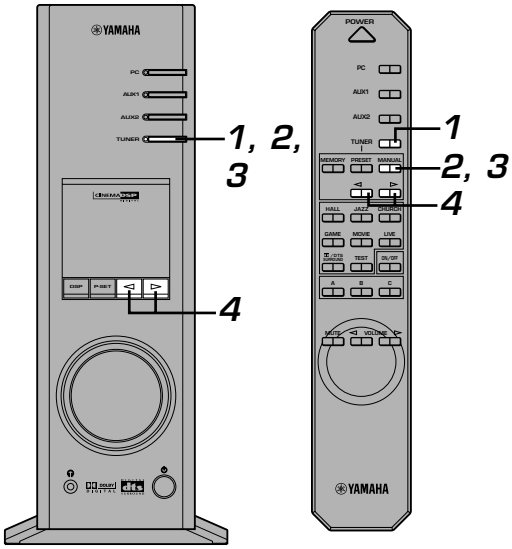
Notes

- **Please check the copyright laws in your country before recording compact discs, radio, etc. Recording of copyright material may infringe copyright laws.**
- You cannot make a recording from a CD-R, MD, etc. which is a copy of an audio CD, to another CD-R, MD, etc. via the USB connection or the digital terminal connection. Also, you cannot make a recording from an MD which is recorded with digital signals received via the USB connection, to another MD via a digital connection.

LISTENING TO AN FM BROADCAST

Tuning into an FM station

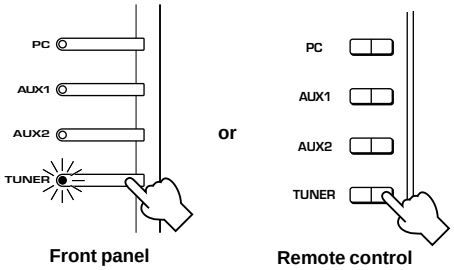
Normally, if station signals are strong and there is no interference, quick auto tuning is possible. However, if the signal of the station you want to select is weak or the reception condition is bad, you must tune in to it manually.



Auto tuning

First turn on this unit.

1 Press the TUNER input selector key to select the built-in FM tuner.

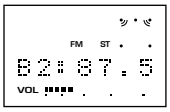


Front panel — Remote control

The tuner turns on in either of the following modes. (The mode which was selected the last time you used the tuner is selected.)

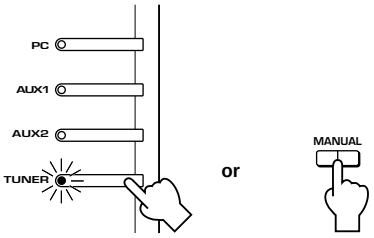
- **Frequency display mode**
  The display shows the selected frequency. This mode is for tuning into a station by changing the frequency.

- **Preset tuning mode**
  This mode is for tuning into a preset station which is already stored in the memory. The display shows the preset group (A to E), the number (1 to 8) and the frequency of the preset station.



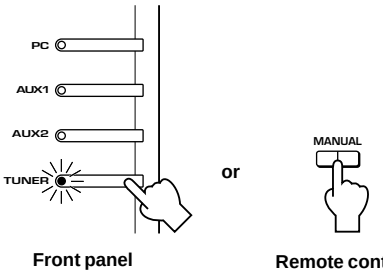
(U.S.A. model)

2 If the tuner is in the preset tuning mode, press the TUNER key (front panel) or the MANUAL key (remote control) to change the preset tuning mode to the frequency display mode.



Front panel — Remote control

3 Press the TUNER key (front panel) or the MANUAL key (remote control) to select the desired reception mode: FM auto stereo or FM monaural.

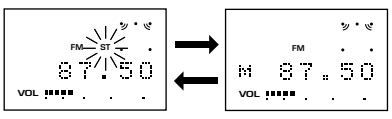


Front panel — Remote control

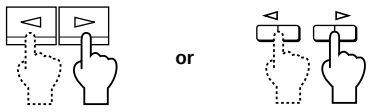
The reception mode changes alternately by each press of the **TUNER** key.

- **FM auto stereo**
  When a stereo broadcast is received, it is received in stereo automatically. (The "ST" indicator lights up on the display.) If, however, the signal of a stereo broadcast is weak, it may be received in monaural automatically. (In this case, the "ST" indicator goes off.)
- **FM monaural**
  Any broadcast is received in monaural. (On the display, "M" appears above the frequency.) If you hear noise in the FM auto stereo mode, try switching to FM monaural.

FM auto stereo — **FM monaural**



4 **Press the ◁ or ▷ key and keep it pressed for one second or more.**



Press the ◁ key to search for lower frequencies and the ▷ key for higher frequencies. When a station with a strong signal is found, the search stops and the station is received. If no station with a strong signal is found, the search stops after searching through all frequencies.

5 **If the received station is not the desired one, repeat step 4.**

Note

If the desired station cannot be found by the auto tuning method, search for the station by using the manual tuning method.

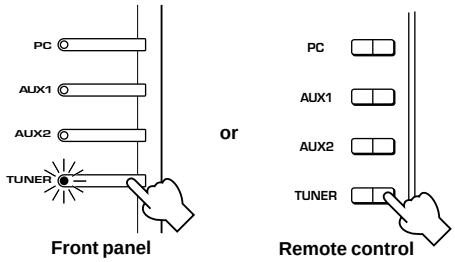
Frequency range and tuning step

	Frequency range	Tuning step
U.S.A. and Canada models	87.50–107.90 MHz	0.20
U.K. and Europe models	87.50–108.00 MHz	0.05
Australia model	87.50–108.00 MHz	0.10

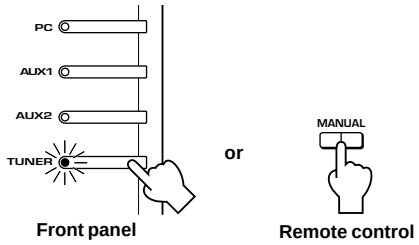
Manual tuning

First turn on this unit.

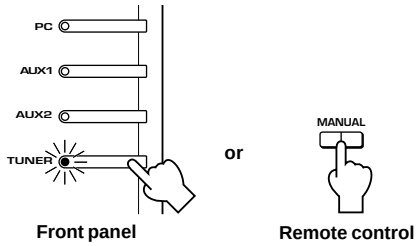
1 **Press the TUNER input selector key to select the built-in FM tuner.**



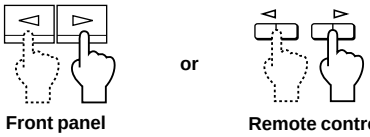
2 **If the tuner is in the preset tuning mode, press the TUNER key (front panel) or the MANUAL key (remote control) to change the preset tuning mode to the frequency display mode.**



3 **Press the TUNER key (front panel) or the MANUAL key (remote control) to select the desired reception mode: FM auto stereo or FM monaural.**



4 **Press the ◁ or ▷ key repeatedly until the desired frequency is located.**

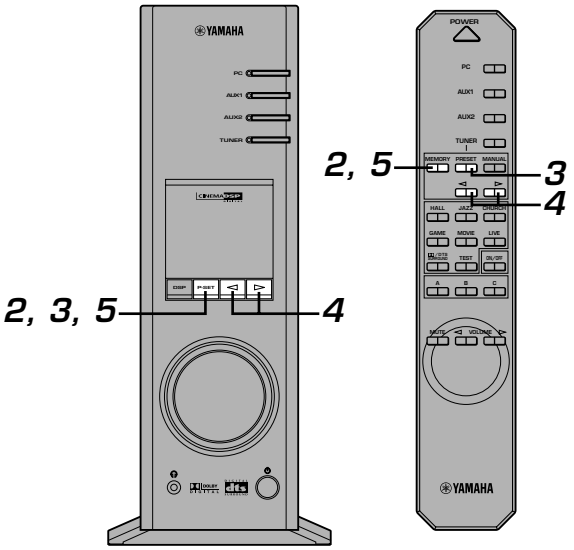


Press the ◁ key to search for lower frequencies and the ▷ key for higher frequencies.

Using the presets

You can store your favorite stations in the 40 presets, which are organized into five groups (A–B), with eight presets in each group. A stored station can be recalled simply by selecting the preset number in which it is stored.

Storing stations manually

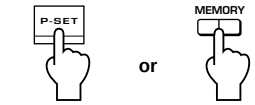


First turn on this unit, and then select the built-in FM tuner as the input source.

1 In the frequency display mode, tune into the desired station and select the reception mode: FM auto stereo or FM monaural.

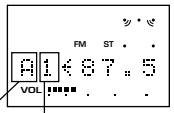
* Refer to pages 14 to 15 on how to tune into a station and select the reception mode.

2 Press the P-SET key (front panel) or the MEMORY key (remote control) and keep it pressed for one second or more.



Front panel Remote control

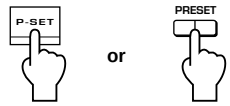
A preset group and a preset number appears and an arrow scrolls from right to left on the display. This means that storing a station is possible.



(U.S.A. model)

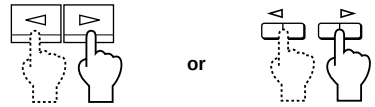
Preset group Preset number

3 Press the P-SET key (front panel) or the PRESET key (remote control) repeatedly to select the desired preset group from A through E.



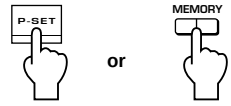
Front panel Remote control

4 Press the ◁ key or the ▷ key repeatedly to select the desired preset number from 1 through 8.



Front panel Remote control

5 Press the P-SET key (front panel) or the MEMORY key (remote control) and keep it pressed for one second or more.



Front panel Remote control

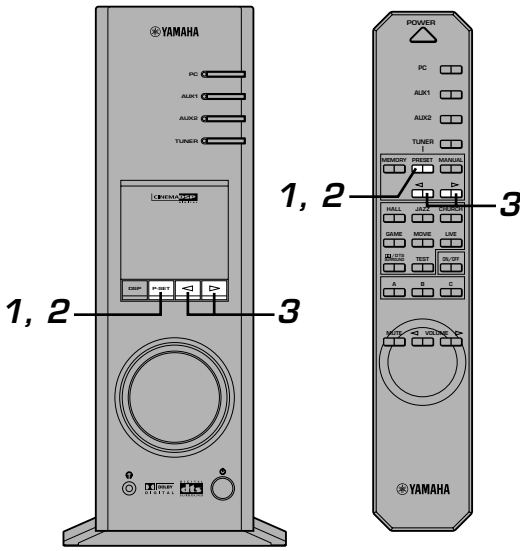
"MEMORY" lights up on the display for approx. 2 seconds to show that the station has been stored.

Notes

- A newly stored station overwrites the previously stored one in the same preset group and number.
- To abort storing the station, press an input selector key (except the **TUNER** key). The selected input mode appears.

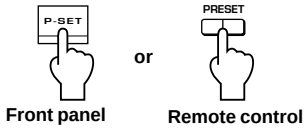
With the supplied Application Software, you can use the auto preset tuning function in addition to the manual method. The auto preset function searches for all stations available in your area and automatically stores them in the presets.
Also, the Application Software allows you to assign a name to each preset station. The names are displayed on the monitor when running the Application.
Refer to the online help of the Application Software for details.

Recalling a preset station

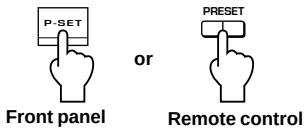


First turn on this unit, and then select the built-in FM tuner as the input source.

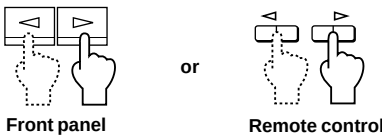
1 Press the P-SET key (front panel) or the PRESET key (remote control) to change this unit from the frequency display mode to the preset tuning mode.



2 Press the P-SET key (front panel) or the PRESET key (remote control) repeatedly to select the preset group from A through E.



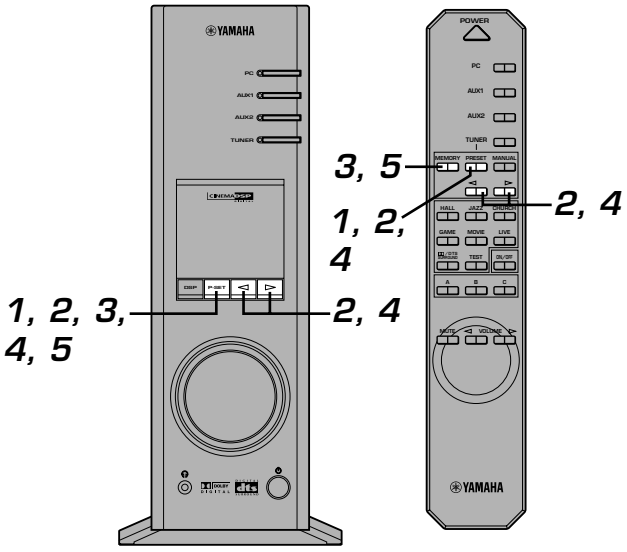
3 Press the ◁ key or the ▷ key repeatedly to select the preset number from 1 through 8.



The station stored in the selected preset group and number is selected.

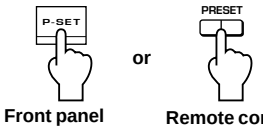
Copying a preset station to a different group and number

You can copy a preset station to a different group and number. Using this function, you can arrange preset stations in your favorite order or collect preset stations into genres.

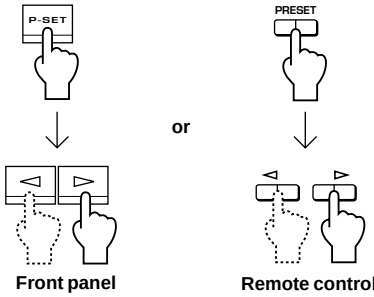


First turn on this unit, and then select the built-in FM tuner as the input source.

1 Press the P-SET key (front panel) or the PRESET key (remote control) to change this unit from the frequency display mode to the preset tuning mode.

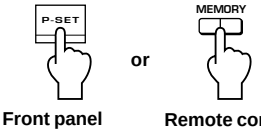


2 Use the P-SET (or PRESET) key to select the preset group, and use the ◁/▷ keys to select the preset number of the station you want to copy.

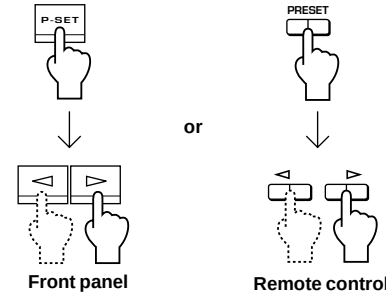


3 Press the P-SET key (front panel) or the MEMORY key (remote control) and keep it pressed for one second or more.

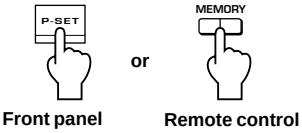
An arrow scrolls from right to left on the display.



4 Use the P-SET (or PRESET) key to select the preset group, and use the ◁/▷ keys to select the preset number you want to copy the station to.



5 Press the P-SET key (front panel) or the MEMORY key (remote control) and keep it pressed for one second or more.

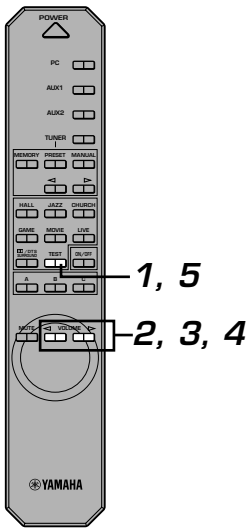


"MEMORY" lights up on the display for approx. 2 seconds to show that the station has been copied and successfully stored.

Adjusting the speaker balance

This procedure lets you adjust the sound output level balance between the front, center and surround speakers by using the built-in test tone generator. Make this adjustment so that each speaker output level is about the same when heard at the listening position. This is important for high performance of the built-in DSP (Digital Sound field Processor), the Dolby Digital decoder and the DTS decoder.
If this unit is set to the "Virtual 3D" mode (the surround speakers are not used) in the Application Software, you can adjust the sound output levels of the speakers in the sound field of the "Virtual 3D" mode (including two virtual surround speakers). Refer to "Setting adjustment on the Setup panel" on page 27. This setting cannot be made by using the front panel controls or the remote control.)

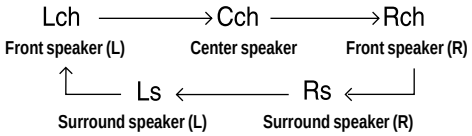
* Use the remote control for adjusting the speaker output levels at the listening position.



1 Press the TEST key on the remote control.

Remote control

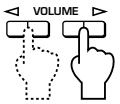
* You will hear a test tone (so called pink noise) from each speaker for about two seconds in the following order.



* The speaker currently outputting the test tone is shown on the display.

2 When the test tone is outputted from the left (L ch) or right (R ch) front speaker:
Use the VOLUME keys on the remote control to adjust the volume of each speaker.
In this step, adjust the volume balance between the left and right front speakers.

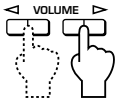
(Adjustable range: –10 to 0)



Remote control

3 When the test tone is outputted from the center speaker (Cch):
Use the VOLUME keys on the remote control to adjust the center speaker output level.
Make the sound output level of the center speaker about the same as the left or right front speaker.

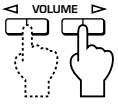
(Adjustable range: –20 to +10)



Remote control

4 When the test tone is outputted from the left (Ls ch) or right (Rs ch) surround speaker:
Use the VOLUME keys on the remote control to adjust the volume of each speaker.
Make the sound output level of the surround speakers about the same as the front speakers.

(Adjustable range: –20 to +10)



Remote control

5 When the adjustments are finished, press the TEST key.

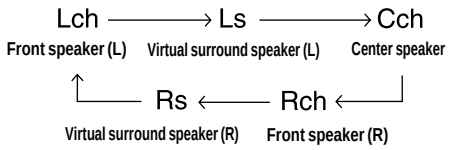
Remote control

The test tone stops.

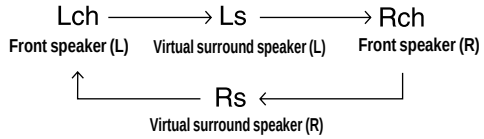
Notes

- **When this unit is set to the "Virtual 3D" mode:**
  The output order of the test tone is as follows.

  When using a center speaker:



  When not using a center speaker:



- **Adjust the subwoofer level while listening to a suitable source.**

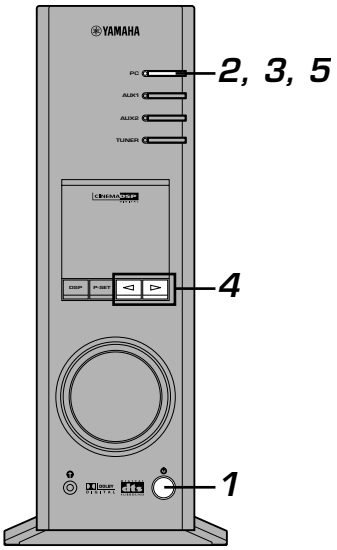
With the supplied Application Software, you can select the speakers to use and not to use. Also, by designating the size of the speakers to use, this unit can be set to an output mode suitable for the ability of the speakers.

Setting USB channel

Typical USB audio features multi-channel modes, such as four-channel and six-channel modes, in addition to a normal two-channel (stereo) mode. This unit is compatible with each of these modes. When a multi-channel mode is selected, you can receive the surround sound signals of computer games compatible with the 4ch Direct Sound 3D and the multichannel signals of DVD video on this unit via the USB connection and enjoy them in surround sounds.
Note that some operating systems and software programs are not multi-channel compatible. Yamaha websites list the names of multi-channel compatible operating systems and software.

Notes

- MacOS9.04, 9.1, etc. does not support this feature. Only the two-channel mode can be used. Some versions of Windows also do not support the six and/or four-channel modes. You can refer to the following Yamaha website for details and related information.
  http://www.yamaha.co.jp/audio/
- When the six channel mode is selected, recording cannot be made to the computer. To record, select the two- or four-channel mode.



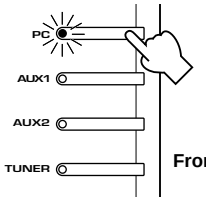
■ How to set

* When playback or recording is performed on the computer via the USB connection, terminate the playback or recording software used on the computer.

1 Turn on this unit.

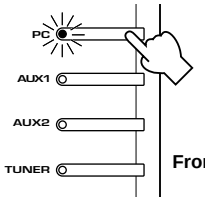
Front panel

2 Press the PC input selector key repeatedly until "USB" appears on the display.



Front panel

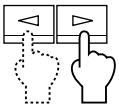
3 Hold down the PC input selector key until the current channel setting is shown (for about two seconds).



Front panel

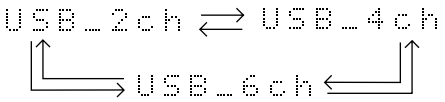
* When the display of this unit shows "USB" in red, USB audio is being played back, disabling this USB channel setting function. Terminate the software used on the computer.

4 Press ◅ or ▻ repeatedly until the desired number of channels is shown on the display.

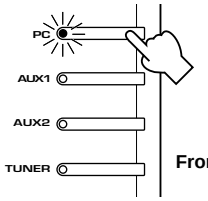


Front panel

The display changes as follows.



5 Hold down the PC input selector key until the following indication appears on the display.



Front panel

The number of channels before the change

The number of channels after the change

Although no further operation is required, wait a short time until the computer completes the changes in the settings.

Notes

- **When the number of channels is changed for the first time, the device driver for the USB audio is installed in the computer. Wait a short time until the computer completes the changes in the setting.**
- **Do not change the USB channel setting under any circumstance during playback or recording via the USB connection on the computer. If changed, the computer may freeze.**

Operating this unit with the Application Software

If this unit is connected to your computer via the USB connection and the Application Software is installed in your computer from the supplied CD-ROM, you can operate this unit with the Application Software from your computer. Moreover, the Application Software, once installed on your computer, offers various settings unavailable from this unit or the remote control. (For instructions on how to install the Application Software, see the separate "**SET UP MANUAL**".)

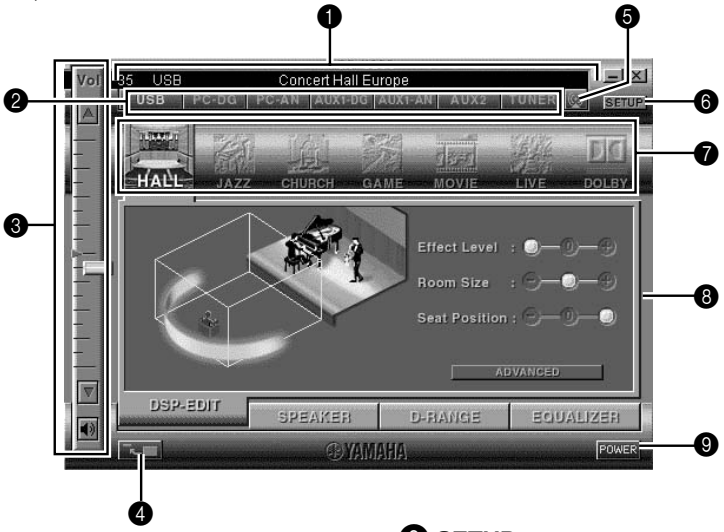
This section briefly explains how to use the Application Software, the setting screens, and the available functions. For further details, refer to the Online Help of the Application Software.

Notes

- The screen images shown in this section are of the basic screens for the Windows version. The Macintosh version slightly differs in button arrangement, etc.
- The screen design, functions, etc., are subject to change due to version upgrades.

About the Main Panel

The Main Panel allows you to perform the following basic operations.
Tabs are shown at the bottom of the detailed-setting screen. To make detailed settings of the desired function available from any detailed-setting screen, click on the tab for the function.



❶ Display

This section shows the current status of the volume, input selectors, sound field programs, etc. by characters.

❷ Input selector

The input selector allows you to directly change the input source.

❸ Volume control

You can adjust the volume by dragging the indicator or by clicking the up (▲) and down (▼) arrows.
You can also alternately turn on and off the speakers by clicking the speaker icon below.

❹ Changing the panel size

You can minimize the size of the Main Panel.

❺ Opening the tuner panel

Press this button to open the tuner panel. (See page 26 for details on operating the FM tuner.)

❻ SETUP

Open this panel to change available settings in the Setup panel. (See page 27 for details on the Setup panel.)

❼ DSP selector

You can directly select a DSP sound field program.

❽ Detailed-setting screens

Select one of the detailed-setting screen tabs at the bottom of the current detailed-setting screen. The new detailed-setting screen will be displayed, where you can make detailed settings of the function.

DSP-EDIT: For adjusting the DSP sound field parameters (See page 23.)
SPEAKER: For adjusting the speaker output levels or the virtual 3D effect (See page 24.)
D-RANGE: For adjusting the dynamic range (See page 25.)
EQUALIZER: For operating the graphic equalizer (See page 25.)

❾ POWER

Each click changes the status of the main unit between standby and power-on.

Adjusting DSP sound field parameters

You can adjust various parameters of the DSP sound field programs.
The default parameters of the sound field programs provide great sound, but it is also possible to fine-tune the parameters to suit the acoustics of the room, individual preferences, and program source. Parameter adjustment is required for each selected sound field program.

How to adjust parameters

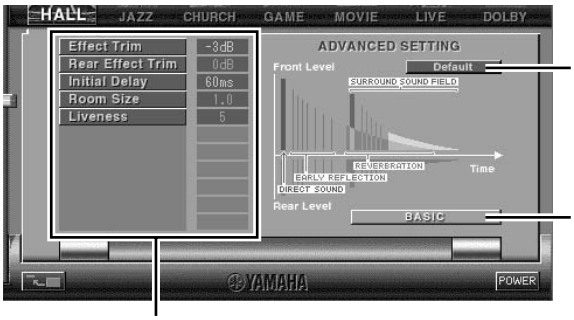
1. Select the program whose parameters you wish to adjust. (Parameter adjustment is effective for the currently selected program only.)
2. Select the **DSP-EDIT** tab at the bottom of the Main Panel. The basic parameter screen appears.
3. This screen allows you to adjust the basic parameters. Open the "ADVANCED SETTING" panel for adjusting the detailed parameters.

Basic parameters

Opens the "ADVANCED SETTING" panel.

Basic parameters

Effect Level	Selects the level of effect sound from the three levels.
Room Size	Selects the apparent size of the listening space from the three levels.
Seat Position	Selects the simulated listening position from the three positions.



Restores all parameters to their default values.

Restores the basic parameter screen.

Select a parameter by clicking its name, and adjust the parameter by sliding the indicator at the bottom of the panel.

Detailed parameters

The following parameters are available on the "ADVANCED SETTING" panel. Depending on the selected program and input signals, not all of the parameters can be adjusted.

Effect Trim	Makes fine adjustment of the level of the overall effect sound.
Rear Effect Trim	Makes fine adjustment of the level of the rear effect sound.
Initial Delay	Adjusts the apparent distance from the sound source to the walls.
Room Size	Adjusts the apparent size of the listening space.
Liveness	Adjusts the apparent reflectivity of the walls.
Surround Delay	Adjusts the delay time of the surround sound field.
S. Initial Delay (Surround Initial Delay)	Adjusts the initial delay time of the surround sound field. (This parameter can be adjusted only when the "Speaker Settings" of this unit has been set to two front and two surround channels or more, and Dolby Digital- or DTS-encoded signals are inputted.)
S. Room Size (Surround Room Size)	Adjusts the apparent size of the surround sound field.
Reverb Time	Adjusts the duration of reverberations.
Reverb Level	Adjusts the level of reverberations.
Reverb Delay	Adjusts the delay time of reverberations.

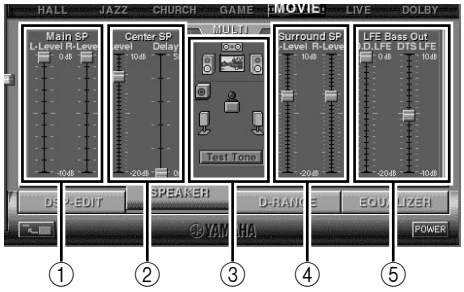
Adjusting the speaker output levels and effect levels

When the check box “Use the surround speakers” under “Speaker Settings” in the Setup panel is checked, you can adjust the output levels of the available speakers respectively. When the check box is not checked, this unit is in the virtual 3D mode, allowing adjustment of the virtual 3D effects. (See page 27.)

Select the **SPEAKER** tab at the bottom of the Main Panel. The following screen appears.

Adjusting the output levels of the speakers

You can adjust the output levels of the speakers which are set for use under “Speaker Settings” in the Setup panel.



① **Adjusting the output levels of the main speakers**
You can adjust the output levels of the left and right main speakers.

② **Adjusting the output level and the delay time of the center speaker**
You can adjust the output level and the delay time of the center speaker.

③ **Test tone**
Click on “Test tone” to output the test tone from the respective speakers in turn. You can adjust their levels while listening to the test tone. On the figure of the speakers at the center of the screen, the speaker currently outputting the test tone is indicated.

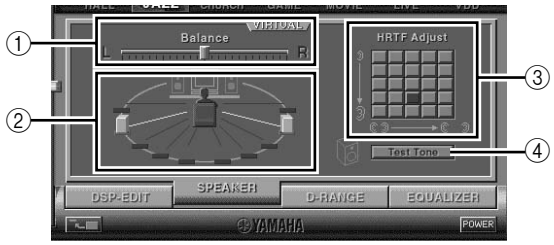
④ **Adjusting the output levels of the surround speakers**
You can adjust the output levels of the left and right surround speakers.

⑤ **Adjusting the LFE output levels**
You can adjust the output level of the LFE (Low Frequency Effect) sounds reproduced when playing a Dolby Digital- or DTS-encoded source. The levels can be adjusted for Dolby Digital and DTS respectively.

Adjusting the virtual 3D effect

The surround sound effect of the virtual 3D sound field is affected by the room configuration, the position of the front speakers and the position of the listener, resulting in sound unique to each environment. The procedure below shows you how to adjust the effect of the virtual 3D to suit your preferences and environment.

Select the **VIRTUAL** tab at the bottom of the Main Panel. The following screen appears.



① **Balance adjustment**
You can adjust the volume balance between the right and left speakers.

② **Virtual surround speaker position setting**
You can set the position of the virtual surround speakers (the speakers are positioned symmetrically.)

③ **HRTF (Head-related Transfer Function) adjustment**
You can make an adjustment to personal characteristics.

④ **Test tone**
You can output a test tone successively from the speakers at their current positions, allowing setting and adjustment while listening to the tone.